

Listing of Claims

1. (Currently Amended) A method of data-processing to form a compound object data set from a plurality of basis datasets
 - the basis datasets assigning datavalues to spatial positions in an at least three-dimensional space,
 - the basis datasets being associated with mutually overlapping regions,the method comprising the step of
 - deriving compound datavalues for spatial positions in the overlapping regions from datavalues of respective basis datasets, wherein the calculation of compound datavalues involves a weighted interpolation.
2. (Original) A method as claimed in Claim 1, wherein the compound datavalues are calculated by interpolation between datavalues of the basis datasets and for corresponding positions in the overlapping regions.
3. (Canceled) A method as claimed in Claim 2, wherein the calculation of compound datavalues involves a weighted interpolation.
4. (Currently Amended) A method as claimed in Claim ~~3~~,1 wherein
 - weights for datavalues of individual basis datasets are associated with their spatial positions in the respective spatial regions of said basis datasets and
 - for respective basis datasets, the weights ~~are non-decreasing~~ generally increase with distance with respect to an edge of the spatial region of the basis dataset concerned.
5. (Currently Amended) A method as claimed in Claim 4, wherein
 - the respective basis datasets have neighbouring spatial regions and
 - said generally increasing of the weights with distance with respect to an edge of the spatial region of the basis dataset concerned is dependent on the overlap between the neighbouring spatial regions

6. (Currently Amended) A method as claimed in Claim 5, wherein said generally increasing with distance with respect to an edge of the spatial region of the basis dataset concerned is more strongly increased as there is less overlap between the adjacent spatial regions.

7. (Original) A method as claimed in Claim 1, wherein individual basis datasets are reconstructed from magnetic resonance signals.

8. (Currently Amended) A method as claimed in Claim 1, wherein the basis datasets include ~~a~~-datavalues that are encoded in three independent spatial directions of a multitude of two-dimensionally encoded datasubsets .

9. (Currently Amended) A method as claimed in Claim 98, wherein

- for individual basis data sets, sets of magnetic resonance signals are successively acquired for the respective positions in one spatial encoding direction or for the respective two-dimensional datasubsets and
- where the order of acquisition runs from the centre towards the edge of the spatial region of the basis dataset concerned.